CSLR 51 – LAB_1

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1. Write SQL queries in MySQL for the following.

a. Write an SQL Query to find the year from date.

```
SELECT YEAR('2021-10-15');
```

Output:

```
+--------------------+
| YEAR('2021-10-15') |
+--------------------+
|               2021 |
+--------------------+
```

b. Check whether date passed to Query is the date of a given format or not.

```
SELECT DATE('2021-15-15');
```

Output:

```
+--------------------+
| DATE('2021-15-15') |
+--------------------+
| NULL               |
+--------------------+
```

c. Find the size of the SCHEMA/USER.

```
SELECT SUM(ROUND(((DATA_LENGTH + INDEX_LENGTH) / 1024 / 1024), 2)) AS "SIZE IN MB" FROM INFORMATION_SCHEMA.TABLES WHERE TABLE_SCHEMA = "sys";
```

Output:

```
+------------+
| SIZE_IN_MB |
+------------+
|       0.02 |
+------------+
```

d. Display the current time.

```
SELECT CURRENT_TIME;
```

Output:

```
+--------------+
| CURRENT_TIME |
+--------------+
| 10:26:46     |
+--------------+
```

e. Given a date, retrieve the next day's date.

```
SELECT DATE_ADD('2021-10-15', interval 1 day);
```

Output:

```
+---------------------------------------+
| DATE_ADD('2021-10-15', interval 1 day) |
+---------------------------------------+
| 2021-10-16                            |
+---------------------------------------+
```

f. Get database's date.

```
SELECT CURRENT_DATE;
```

Output:

```
+--------------+
| CURRENT_DATE |
+--------------+
| 2024-07-26   |
+--------------+
```

g. Returns the default(current) database name.

```
SELECT DATABASE();
```

Output:

```
+------------------------+
| DATABASE()             |
+------------------------+
| sandbox_db |
+------------------------+
```

h. Retrieve the current MySQL user name and host name.

```
SELECT user, host, authentication_string, plugin from mysql.user;
```

i. Find the string that tells the MySQL server version.

```
SELECT VERSION();
```

Output:

```
+-----------+
| VERSION() |
+-----------+
| 8.0.27    |
+-----------+
```

j. Perform Bitwise OR, Bitwise XOR and Bitwise AND.

```
SELECT 5|6 as ANS;
SELECT 5&6 as ANS;
SELECT 5^6 as ANS;
```

Output:

```
+-----+
| ANS |
+-----+
|   7 |
+-----+
```

Output:

```
+-----+
| ANS |
+-----+
|   4 |
+-----+
```

Output:

```
+-----+
| ANS |
+-----+
|   3 |
+-----+
```

k. Find the difference between two dates and print in terms of the number of days.

```
SELECT DATEDIFF('2020-06-25', '2020-06-15');
```

Output:

```
+-------------------------------------+
| DATEDIFF('2020-06-25', '2020-06-15') |
+-------------------------------------+
|                                  10 |
+-------------------------------------+
```

l. Add one day to the current date.

```
SELECT DATE_ADD('2021-10-15', interval 1 day);
```

Output:

```
+----------------------------------------+
| DATE_ADD('2021-10-15', interval 1 day) |
+----------------------------------------+
| 2021-10-16                             |
+----------------------------------------+
```

m. Add two hours and 5000 minutes to the current date and print the new date.

```
SELECT DATE_ADD(DATE_ADD(NOW(), INTERVAL 2 HOUR), INTERVAL 5000 MINUTE) AS new_date;
```

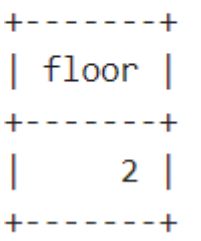
Output:

```
+---------------------+
| new_date            |
+---------------------+
| 2024-07-30 00:02:52 |
+---------------------+
```

n. Find the floor and ceil values of a floating point number. Also operate on the power, log, modulus, round off and truncate functions.

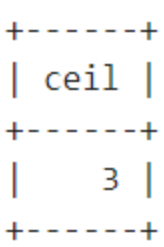
```
SELECT floor(2.8) as floor;

SELECT ceil(2.8) as ceil;

SELECT POWER(3,2) AS POW;

SELECT LOG(2.81) AS LOG_VAL;

SELECT MOD(10,5) AS MOD_VAL;

SELECT ROUND(5.4) AS round_off_value;

SELECT TRUNCATE(10.8461561, 2) AS truncate_value;
```

Output:



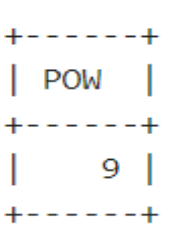
floor
2

Output:



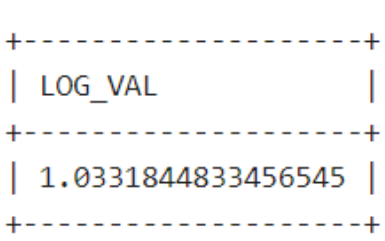
ceil
3

Output:



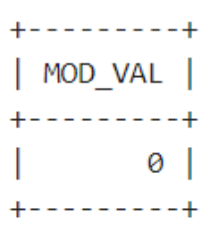
POW
9

Output:



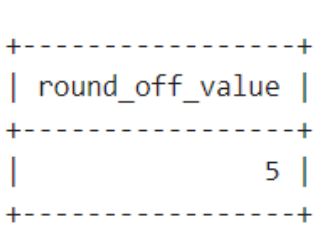
LOG_VAL
1.0331844833456545

Output:



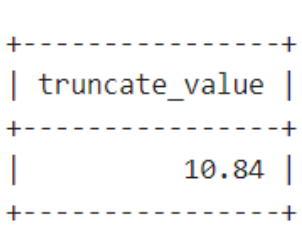
MOD_VAL
0

Output:



round_off_value
5

Output:

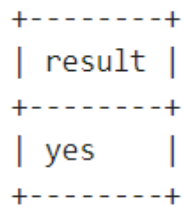


truncate_value
10.84

o. Compare two strings and print the value ‘yes’ if they are equal, else print ‘no’.

```
SELECT IF('hello' = 'hello', 'yes', 'no') AS result;
```

Output:



result
yes

p. Simulate the “IF... ELSE” construct in MySQL for a mark and grade setup.

```
CREATE TABLE students (
   id INT AUTO_INCREMENT PRIMARY KEY,
   name VARCHAR(100),
   marks INT
);
INSERT INTO students (name, marks) VALUES
('Alice', 95),
('Bob', 85),
```

```
('Charlie', 75),
('David', 65),
('Eve', 55);
SELECT
   name,
   marks,
   IF(marks >= 90, 'A',
      IF(marks >= 80, 'B',
         IF(marks >= 70, 'C',
            IF(marks >= 60, 'D', 'F')
         )
      )
   ) AS grade
FROM
   students;
```

Output:

```
+---------+-------+-------+
| name    | marks | grade |
+---------+-------+-------+
| Alice   |    95 | A     |
| Bob     |    85 | B     |
| Charlie |    75 | C     |
| David   |    65 | D     |
| Eve     |    55 | F     |
+---------+-------+-------+
```

q. Use IFNULL to check whether a mathematical expression gives a NULL value or not.

```
SELECT IFNULL(1/NULL, 'Expression is NULL') AS result;
```